

ABSTRACT

A multi-hit transparent armor system is described and claimed herein for improving the resistance of transparent armor to incoming projectiles. Typically, the transparent armor is framed within a window opening of a security structure. An exemplary, contemplated structure is an armored combat vehicle. My system includes a sheet of tempered glass that is also positioned within said window, but is deployed outboard of said transparent armor and is also parallel planar thereto. Positioned below said sheet of tempered glass, and coaxial thereto, is an opaque armor panel that is more efficient and effective against multiple projectiles than either the tempered glass or transparent armor alone. The tempered glass sheet and the opaque armor are typically loaded under compression by a spring assembly. An incoming projectile, launched from a position outboard and also remote from said structure, will first strike the tempered glass before hitting my transparent armor. Thereby, the tempered glass sheet will undergo global failure and is effectively removed from the window opening. In turn, the spring assembly translates the opaque armor into the position formerly occupied by the tempered glass sheet. Subsequently arriving projectiles are then defeated by the opaque armor panel.